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- (74) Agent: **KERRIGAN, Cameron**; Squire, Sanders & Dempsey L.L.P., 600 Hansen Way, Palo Alto, CA 94303-1043 (US).
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- (71) Applicant: **ADVANCED CARDIOVASCULAR SYSTEMS, INC [US/US]**; 3200 Lakeside Drive, Santa Clara, CA 95054 (US).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
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(54) Title: **POLYACRYLATES COATINGS FOR IMPLANTABLE MEDICAL DEVICES**

(57) Abstract: A coating for a medical device, particularly for a drug eluting stent, is described. The coating can include a polyacrylate, a blend of polyacrylates, or a blend of the polyacrylate with other polymers, for example, poly(ethylenc-covinyl alcohol).

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 03/15544

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 A61L31/10 A61L27/34

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 A61L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, PAJ, WPI Data, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	"ROLLING THERAPEUTIC AGENT LOADING DEVICE FOR THERAPEUTIC AGENT DELIVERY OR COATED STENT" RESEARCH DISCLOSURE, KENNETH MASON PUBLICATIONS, HAMPSHIRE, GB, no. 434, June 2000 (2000-06), page 975, XP000980708 ISSN: 0374-4353 *entire document*	1,2,4,5
X	NOVICK, SCOTT J. ET AL: "Protein-containing hydrophobic coatings and films" BIOMATERIALS (2001), VOLUME DATE 2002, 23(2), 441-448, XP002252591 *abstract*	1,2,4,5

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Δ\* document member of the same patent family

Date of the actual completion of the international search

3 September 2003

Date of mailing of the international search report

23. 01. 2004

Name and mailing address of the ISA

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 03/15544

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/29043 A (HABERBOSCH WERNER ;JUSTUS LIEBIG UNI GIESSEN (DE); CHRISTOPHE BURE) 25 May 2000 (2000-05-25) claims 1-26 examples 1-4	1-5
X	US 2001/014717 A1 (HOSSAINY SYED F A ET AL) 16 August 2001 (2001-08-16) '0031!-'0042!, '0080! claims 1-36	1,2,4,5
X	WO 99/55396 A (SURMODICS INC) 4 November 1999 (1999-11-04) page 4, line 1 - page 8, line 30 example 1	1-9
X	WO 02/24249 A (BINDERMAN ITZHAK ;KOOLE LEVINAS H (NL)) 28 March 2002 (2002-03-28)	1,2,4,5
Y	page 4, line 5 - line 30 page 6, line 26 - page 8, line 11 page 12, line 1 - line 27 page 16, line 5 - page 17, line 8	3
X	US 6 110 483 A (ZHANG XIANPING ET AL) 29 August 2000 (2000-08-29) column 3, line 65 - column 6, line 16 claims 1-40	1-8
P,X	WO 03/022324 A (ABBOTT LAB) 20 March 2003 (2003-03-20)	1,2,4,5
Y	page 16, line 19 - page 17, line 22	3

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 03/15544

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-9

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

**1. claims: 1-9**

A coating for an implantable medical device, comprising a thermoplastic polyacrylate material free from acetate species and a herapeutically active agent incorporated therein.

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**2. claims: 10-27**

A coating for an implantable medical device, the coating comprising a first layer having an active agent incorporated therein and a second layer disposed over the first layer, wherein the second layer comprise a thermoplastic polyacrylate material for modifying the rate of release of the agent.

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# INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No  
PCT/US 03/15544

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